EPA Rationale For Making Listing Decisions

EPA is approving Arkansas' decision not to list some of the waterbody-pollutant combinations identified by plaintiffs in Sierra Club v. EPA, Case No. LR-C-99-114 (E.D. Ark.),. The attached tables provide a rationale for each such decision. The rationales discuss the available data and information used by Arkansas and EPA in making a decision that specific waterbody-pollutant combinations are not required to be listed by the Clean Water Act and EPA's implementing regulations. Further explanation is provided in the paragraphs below.

The EPA's review of Attachment A and B waters consisted of applying the Arkansas Department of Environmental Quality's (ADEQ) methodology to data (STORET, USGS or Arkansas' ambient monitoring data) for the period of record from October 1998 through December 2001 in addition to reviewing other readily available data. Where there was little or no data for the period of record or other information, the EPA considered data that was used by Arkansas for the 1996 303(d) list. Waters were listed where at least 12 samples were available and more than a certain percentage of samples exceeded the applicable water quality standard. Additionally, waters were listed in cases where the minimum sample size had not been met but the number of exceedances would cause a non-supporting finding at the minimum sample size even if additional samples all meeting the criterion were collected. As appropriate, for waters where there was no data or other information, evaluative assessments were made based on data from upstream or downstream reaches. Where it was not appropriate to make an evaluative assessment, the EPA concluded that the waters are not required to be listed based on the absence of adequate data or information demonstrating impairment. Once additional data is collected, Arkansas will need to evaluate that data for future lists.

Interpretation of numerical values

The applicable percent exceedances provided in the ecoregion and stream specific assessment criteria tables of the ADEQ's assessment methodology varied according to the parameter (i.e. turbidity, pathogens, etc.). The EPA technical staff have determined that the percent exceedances used in the assessment methodology for the parameters addressed in the attached tables is a reasonable approach and is consistent with Arkansas's water quality standards.

According to Arkansas' listing methodology, "the number of data points exceeding the criteria which are necessary for a "non-support" decision will be calculated and rounded up to the nearest whole number", e.g. if there are 38 data points, under the State's methodology, 10 exceedances would equal 25%, since 38 x 0.25 = 9.5, which is rounded up to 10. Therefore, in this example, 10 exceedances of the criteria results in a decision that the waterbody is not required to be listed, since 11 exceedances would be needed to list as impaired. Thus, the primary contact use for pathogens is supporting for Wabebaseka Bayou, since seven samples were collected during the April - September time period and 2 of those exceeded the criterion. Multiplying 7 by 25% gives 1.75 which is rounded to 2 samples. Therefore, 2 exceedances is considered "supporting" and 3 exceedances would be needed to list as impaired. EPA has applied this approach to our assessment of the data in the attached tables.

Pathogens

Arkansas cited EPA Region 6's letter dated January 5, 1998 which revised Section 3.3.2 Bacteria of the Guidelines for Preparation of the Comprehensive State Water Quality Assessments (305(b) Report) and Electronic Updates: Supplement as justification for using a > 25% exceedance for nonsupport. Under this guidance the primary contact recreational use is not supporting for fecal coliform if the geometric mean is not met and/or more than 25% of samples exceed 400 colonies per 100 ml. The geometric mean of the fecal coliform bacteria level should not exceed 200 colonies per 100 ml based on at least five samples in a 30 day period. Based on ADEQ's assessment methodology, a minimum of four samples collected during the primary contact season (April - September) are required for for determination of nonsupport of the primary contact use.

Turbidity

In general, the rationales describe the data used, the percent exceedances for support, and the water quality standard or criteria used to make the assessment. However, some additional explanation is provide here to clarify assumptions used in the assessment. The ADEQ has provided the EPA with a written rationale concerning their assessment for turbidity given in their assessment methodology document (personal correspondence - Bill Keith). Because of the process used in establishing the ecoregion base standards used in Arkansas the State does not feel that applying a percent exceedance approach to all data year round is appropriate. Data from ecoregion reference streams used to set the ecoregion criteria was collected only during summer and fall periods. Following this reasoning ADEQ applies a twenty-five percent exceedance rate to the criteria for the months of June through October. To better represent periods of wet weather ADEQ uses a fifteen percent exceedance rate as compaired to a 90^{th} percentile of ecoregion data that is applied year round. Using the Mulberry River from the attached tables as an example will help to explain how to interpret the rationales. In this case, two criteria were used; a 10 NTU (nephlometric turbidity units) for the base flow period (Jun-Oct) and 19 NTU for year round data to represent storm flow periods. To make a decision of support, 25% of the samples should not exceed a 10 NTU during the base flow period and 15% of the samples should not exceed a 19 NTU for the storm flow period. If either of the criteria are violated, then the water is not supporting. Therefore, because zero samples out of 10 (0/10) collected during the base flow period (which is $\leq$ 25%) exceeded a 10 NTU, the water is in support. Likewise, because only 1 sample out of the 31 samples (1/31) collected during the period of record (which is $\leq$ 15%) exceeded a 19 NTU, the water is in support.

Nutrients

The Arkansas water quality standards for nutrients is a narrative statement that states, "Materials stimulating algal growth shall not be present in concentrations sufficient to cause objectionable algal densities or other nuisance aquatic vegetation. As a guideline total phosphorous shall not exceed 100 ug/l in streams or 50 ug/l in lakes and reservoirs except in waters highly laden with natural silts or color which reduce the penetration of sunlight needed for plant photosynthesis, or in other waters where it can be demonstrated that algal production will not interfere with or adversely affect designated uses an/or fish and wildlife propagation."

EPA believes that the narrative language cited above provides some latitude in determining the best approach for applying the nutrient narrative. As previously discussed Arkansas' water quality standards are ecoregion based. Because of this fact, EPA did not believe application of the guideline values found in the narrative applied statewide was an appropriate approach. The language of the standard recognizes that siltation can be an important factor in determining appropriate targets for nutrients. Based on this acknowledgment, it is reasonable for Arkansas to apply a different total phosphorus target to a clear flowing Ozark Highlands stream than to a silt laden stream in the Delta Ecoregion. EPA believes that it is most appropriate to follow the ecoregion approach for evaluation of waters for nutrient impacts to streams.

To do this EPA used the document, "*Physical, Chemical, and Biological Characteristics of Least-Disturbed Reference Streams in Arkansas' Ecoregions"* (ADPCE,1987). In this document ADEQ (formerly ADPCE) has sampled numerous reference stream reaches in all of the established ecoregions. This data has been used in establishing water quality criterion for numerous other pollutants and EPA believes that this information is the most appropriate information availble to help in interpreting the state's narrative nutrient criterion. To establish baseline values for what total phosphorous concentrations may be appropriate in each ecoregion EPA used both the mean and range of all reference stream concentrations for total phosphorous and compared it against available stream concentration values. In the Ozark Highlands ecoregion the mean of 11 reference streams is 5 ug/l with a range of 1 ug/l to 15 ug/l. Obviously, if the narrative guideline of 100 ug/l were applied it would not be sufficiently protective to serve as a reasonable value for assessing impairment. EPA's approach was to compare instream concentrations against the more appropriate ecoregion values to determine if they were meaningfully different. For example, concentrations for sample sites on Osage Creek have a mean almost nine times greater than the reference sites. EPA determined that this stream was significantly different than the ecoregion values and is proposing that this stream be listed. Using this same approach in the Delta Ecoregion yields a mean of 240 ug/l with a range of 100 to 410 ug/l. Waters in this ecoregion also have a much higher silt load as represented by elevated turbidity values at sites in this ecoregion. EPA believes that the language in the narrative recognizing increased silt loads as a mitigating factor in phosphorous levels, applied in conjunction with Arkansas' reference stream sampling, provides a reasonable basis for identifying ecoregion-specific target values for waters in Arkansas that may be different from the 100 ug/l guideline given in the narrative, especially since the language of the standard specifically qualifies the relevance of the guideline based on silt loads and other factors.

Lake Assessments for Nutrients

A multi-parameter approach was used in assessing lakes for a violation of the narrataive nutrient criteria. This is the same approached used by ADEQ when identifying whether a stream is impaired for nutrients. In the absence of a state methodology, EPA considered chlorophyll *a* data, dissolved oxygen, pH,and total phosphorus data in addition to other information contained in *Water Quality Assessment of Arkansas' Significantly Publicly-owned Lakes* (1989, 1995, 1999) and 305(b) reports (1996, 2002). Waters proposed for addition to the list in this group show elevated chlorophyll *a*, dissolved oxygen, and pH values, which are strong indicators of nutrient impairment. Although, total phosphorus values were considered, they alone were not the

basis for EPA's decision. Algal density is typically driven by nutrients. Chlorophyll *a* is a surrogate measure for algal density; therefore, the greater the concentration the higher the density. Waters with objectionable algal densities typically display diurnal dissolved oxygen fluctuations with wide swings in the dissolved oxygen concentration from supersaturation during the daytime to below standards in the nightime. High dissolved oxygen concentrations during the daytime may be an indication of supersaturation. Carbon dioxide concentrations increase in waters with large algal densities as a result of respiration resulting in a change in the pH from neutral to alkaline. Increased pH levels may be an indication of large algal densities.

This approach similar to the methodology used by the ADEQ in listing Rolling Fork (HUC 11140109-919) as being impaired by phosphorus and nitrates. For example, Old Town Lake was proposed for listing because of the excessive chlorophyll values (range 110 - 174 ug/l), possible supersaturated dissolved oxygen value of 13.62 mg/l, and pH of 9.42 which is in violation of the pH standard. In addition, the 1996 305(b) report stated Old Town Lake was "significantly impacted by enriched agricultural runoff" and the 1999 Lake Assessment Report stated "Old Town Lake is an example of an impacted lake from nutrient-enriched and silt-laden agricultural run-off. This lake has a long history of excessive siltation and eutrophication..."

Rationale for Not Listing Waters from Attachment A of the Consent Decree

STREAM NAME	HUC	REACH	P_SEG	STATION	POLLUTANT	EPA JUSTIFICATION
Baron Fork	11110103	-013	3J	ARK07	siltation	1/17 samples (≤25%) exceed 10 NTU (Jun-Oct); 1/36 samples (≤15%) exceed 19 NTU (all months); used Oct1998-Dec2001 data. Use Supported.
Bayou Bartholomew	8040205	-012	2B		siltation	EPA approved TMDL Jan. 13, 2003
Bayou Bartholomew	8040205	-012	2B		mercury	EPA established TMDL Dec 18, 2002
Bayou DeView	8020302	-004	4B	BDV02	pathogens	1/5 samples (≤25%) exceed the Primary Contact Use criterion of 400 FC/100ml; 0/9 samples (≤25%) exceed the Secondary Contact Use criterion 2000 FC/100 ml; data used Jun1994 -Oct1996. Use Supported.
Bayou DeView	8020302	-005	4B		pathogens	Based on downstream Station BDV02: 1/5 samples (≤25%) exceed the Primary Contact Use criterion of 400 FC/100ml; 0/9 samples (≤25%) exceed the Secondary Contact Use criterion 2000 FC/100 ml; data used Jun1994 -Oct1996. Use Supported.
Bayou DeView	8020302	-006	4B		pathogens	Insufficient data or other information for determination of listing
Bayou DeView	8020302	-007	4B		pathogens	Insufficient data or other information for determination of listing
Bayou Meto	8020402	-003	3B	ARK23	siltation	1/16 samples (≤25%) exceed 45 NTU (Jun-Oct), 4/38 samples (≤15%) exceed 84 NTU (all data), used Oct1998-Dec2001 data. Use Supported.
Bayou Meto	8020402	-001	3B		siltation	Evaluated on downstream Station ARK23 which is supporting; therefore this 4.3 mi reach is also supporting.
Bayou Two Prairie	8020402	-006	3B	ARK97	siltation	1/17 samples (≤25%) exceed 45 NTU (Jun-Oct); 3/37 samples (≤15%) exceed 40 NTU (all months); used Oct 1998-Dec2001 data. Use Supported.
Bayou Two Prairie	8020402	-006	3B	ARK97	nutrients	Data from Oct98-Dec01 (37 values) ranged from 0.09 to 7.06 mg/l total phosphorus with an average of 0.93 mg/l and median of 0.48 mg/l. Data is skewed by 3 outliers (3.69, 4.13 and 7.06 mg/l) and if removed, the range becomes 0.09 to 1.93 mg/l total phosphorus with an average of 0.57 mg/l and median of 0.42 mg/l. These values are not meaningfully different from Delta ecoregion reference stream values ranging from 0.10 to .41 mg/l total phosphorus with an average of 0.24 mg/l. EPA does not believe this stream is in violation of the Arkansas' narrative criterion for nutrients. Use Supported.
Beaty Creek	11070209	-049	3J		siltation	Insufficient data or other information for determination of listing
Big Boy Creek	8020203	-022	5A		siltation	Insufficient data or other information for determination of listing
Big Creek	8020203	-011	5A		siltation	Insufficient data or other information for determination of listing

Rationale for Not Listing Waters from Attachment A of the Consent Decree

Black Fork	11110206	-009	3E	BLF01	siltation	OUMT & ARRV ER transition zone; applying ARRV turbidity criteria: 1/6 samples (≤25%) exceeds 21 NTU (Jun-Oct); 0/13 samples (≤15%) exceeds 40 NTU (all data). Use Supported.
Boeuf River	8050001	-019	2A		nutrients	On 2002 303(d) List
Boeuf River	8050001	-019	2A	BFR01	siltation	On 2002 303(d) List
Boggy Creek	8050002	-009	2A		nutrients	Insufficient data or other information for determination of listing
Boggy Creek	8050002	-009	2A		siltation	Insufficient data or other information for determination of listing
Brush Creek	11010001	-033	4K		pathogens	Insufficient data or other information for determination of listing
Brush Creek	11010001	-033	4K		siltation	Insufficient data or other information for determination of listing
Brushy Creek	8020205	-006	5B		siltation	Insufficient data or other information for determination of listing
Cache River	8020302	-016	4B	WHI32	pathogens	1/5 samples (<25%) exceed the Primary Contact Use criterion of 400 FC/100ml; 0/9 samples (<25%) exceed the Secondary Contact Use criterion 2000 FC/100 ml; data used Jun1994 -Sep1996. Use Supported.
Cache River	8020302	-027	4B		pathogens	Insufficient data or other information for determination of listing
Cache River	8020302	-029	4B		pathogens	Insufficient data or other information for determination of listing
Cache River	8020302	-031	4B		pathogens	Insufficient data or other information for determination of listing
Cache River	8020302	-032	4B		pathogens	Insufficient data or other information for determination of listing
Cadron Creek	11110205	-011	3D	CCR01	pathogens	0/3 samples (≤25%) exceed the Primary Contact Use criterion of 400 FC/100ml; 0/6 samples (≤25%) exceed the Secondary Contact Use criterion 2000 FC/100 ml; data used Oct 1998-Aug1999. Use Supported.
Cadron Creek	11110205	-009	3D		pathogens	Insufficient data or other information for determination of listing
Chickalah Creek	11110204	-002	3G	ARK58	siltation	2/17 samples (≤25%) exceed 21 NTU (Jun-Oct); 5/37 samples (≤15%) exceed 40 NTU (all months); used oct1998-Dec2001 data. Use Supported.
Choctaw Bayou	8050001	-021	2A	OUA181	siltation	2/2 samples exceed the 84 NTU criterion, based on a minimum sample size of 12, would need 3 exceedances to list as impaired. No samples were taken during the Jun-Oct period for assessment of the 45 NTU criterion. Used Jan01-Mar01 data. Insufficient data and information to make an impairment determination.
Choctaw Bayou	8050001	-021	2A	OUA181	nutrients	Data from Jan01-Mar01 (2 values) ranged from 0.35 to 0.38 mg/l total phosphorus with an average of 0.37 mg/l. These values are not meaningfully different from Delta ecoregion reference stream values ranging from 0.10 to .41 mg/l total phosphorus with an average of 0.24 mg/l. EPA does not believe this stream is in violation of the Arkansas' narrative criterion for nutrients. Use Supported.

Rationale for Not Listing Waters from Attachment A of the Consent Decree

Cincinnati Creek	11110103	-021	3J	ARK141	siltation	0/15 samples (≤25%) exceed 10 NTU (Jun-Oct); 0/36 samples (≤15%) exceed 17 NTU (all months); used Oct1998-Dec2001 data. Use Supported.
Clay Ditch	8050002	-007	2A	OUA173	siltation	2/6 samples exceed the 84 NTU criterion, based on a minimum sample size of 12, would need 3 exceedances to list as impaired. 0/2 samples (≤25%) exceed the 45 NTU (Jun-Oct) criterion, based on a minimum sample size of 12 would need 4 exceedances to list as impaired. Used Nov00-Sep01 data. Use supported.
Clay Ditch	8050002	-007	2A	OUA173	nutrients	Data from Nov00-Sep01 (6 values) ranged from 0.16 to 0.68 mg/l total phosphorus with an average of 0.34 mg/l. These values are not meaningfully different from Delta ecoregion reference stream values ranging from 0.10 to .41 mg/l total phosphorus with an average of 0.24 mg/l. EPA does not believe this stream is in violation of the Arkansas' narrative criterion for nutrients. Use Supported.
Clear Creek	11110103	-029	3J	ARK10C	siltation	1/17 samples (≤25%) exceed 10 NTU (Jun-Oct); 2/37 samples (≤15%) exceed 17 NTU (all months); used Oct1998-Dec2001 data. Use Supported.
Cossatot R.	11140109	-918	1C	RED22	pathogens	2/11 samples (≤25%) exceed the Primary contact use criterion of 400 FC/100 ml; 1/19 samples (≤25%) exceed the Secondary contact used criterion of 2000 FC/100 ml; used Jan 95-Sep97 data. Use Supported
Cossatot River	11140109	-019	1C		pathogens	Insufficient data or other information for determination of listing
Crooked Creek	11010003	-048	4I	WHI48A,B, C	siltation	0/15 samples (≤25%) exceed 10 NTU (Jun-Oct); 0/36 samples (≤15%) exceed 17 NTU (all months); used Oct1998-Dec2001 data. Use Supported.
Cypress Bayou	8020301	-010	4D	CPB01	pathogens	1/6 samples (≤25%) exceed the Primary Contact Use criterion of 400 FC/100ml; 0/10 samples (≤25%) exceed the Secondary Contact Use criterion of 2000 FC/100 ml; data used Jun 1994 - Oct 1996. Use Supported.
Cypress Bayou	8020301	-011	4D		metals	Based on downstream Station CPB01: Insufficient data (1 value) or other information for determination of listing. Use Supported.
Cypress Bayou	8020301	-011	4D		pathogens	Evaluated on Station CPB01 on reach 10 which is meeting the pathogen data, this reach is likewise supporting.
Cypress Bayou	8020301	-010	4D	CPB01	metals	Insufficient data (1 value below criterion) or other information for determination of listing. Use Supported

Cypress Creek	8050001	-020	2A	OUA180	siltation	2/4 samples exceed the 84 NTU criterion, based on a minimum sample size of 12, would need 3 exceedances to list as impaired. 0/2 samples exceed the 45 NTU (Jun-Oct) criterion, based on a minimum sample size of 12 would need 4 exceedances to list as impaired. Used Jan01-Sep01 data. Insufficient data and information to make an impairment determination.
Cypress Creek	8050001	-020	2A	OUA180	nutrients	Data from Jan01-Sep01 (4 values) ranged from 0.12 to 0.53 mg/l total phosphorus with an average of 0.31 mg/l. These values are not meaningfully different from Delta ecoregion reference stream values ranging from 0.10 to .41 mg/l total phosphorus with an average of 0.24 mg/l. EPA does not believe this stream is in violation of the Arkansas' narrative criterion for nutrients. Use Supported.
Deep Bayou	8040205	-005	2B	OUA151	siltation	EPA approved TMDL Jan. 13, 2003
Ditch Bayou	8050002	-004	2A	OUA172	siltation	0/6 samples (≤15%) exceed the 84 NTU criterion. Based on a minimum sample size of 12, would need 3 exceedances to list as impaired. 0/2 samples (≤25%) exceed the 45 NTU (Jun-Oct) criterion, based on a minimum sample size of 12 would need 5 exceedances to list as impaired. Used Nov00-Sep01 data. Use Supported.
Ditch Bayou	8050002	-004	2A	OUA172	nutrients	Data from Nov00-Sep01 (6 values) ranged from 0.06 to 0.12 mg/l total phosphorus with an average of 0.09 mg/l. These values are not meaningfully different from Delta ecoregion reference stream values ranging from 0.10 to .41 mg/l total phosphorus with an average of 0.24 mg/l. EPA does not believe this stream is in violation of the Arkansas' narrative criterion for nutrients. Use Supported.
Dry Creek	11010001	-055	4K		pathogens	Insufficient data or other information for determination of listing
E. Fork Cadron	11110205	-002	3D	EFC01	pathogens	0/3 samples (≤25%) exceed the Primary Contact Use criterion of 400 FC/100ml; 0/5 samples (≤25%) exceed the Secondary Contact Use criterion of 2000 FC/100 ml; data used Oct1998-Aug1999. Use Supported.
E. Fork Cadron	11110205	-003	3D		pathogens	Evaluated on the upstream station (EFC02) on reach 005 and downstream station (EFC01) on reach 002 neither of which exceed the bacteria criteria for impairment. Use Supported.
Eightmile Ditch	8020203	-018	5A		siltation	Insufficient data or other information for determination of listing
Eightmile Ditch	8020203	-019	5A		siltation	Insufficient data or other information for determination of listing
Eleven Point Creek	11010011	-001	4H	WHI05B	siltation	0/17 samples (≤25%) exceed 10 NTU (Jun-Oct); 2/38 samples (≤15%) exceed 17 NTU (all months); used Oct1998-Dec2001 data. Use Supported.

Evansville Cr.	11110103	-012	3J		pathogens	Insufficient data or other information for determination of listing
Evansville Creek	11110103	-012	3J		siltation	Insufficient data or other information for determination of listing
Fifteen Mile Bayou	8020203	-006	5A	FRA028	siltation	2/6 samples exceed the 84 NTU criterion, based on a minimum sample size of 12, would need 3 exceedances to list as impaired. 0/2 samples (≤25%) exceed the 45 NTU (Jun-Oct) criterion, based on a minimum sample size of 12 would need 4 exceedances to list as impaired. Used Nov00-Sep01 data. Based on available data an information, use supported.
First Creek	8020205	-007	5B	FRA30	siltation	0/6 samples (≤15%) exceed the 84 NTU criterion. Based on a minimum sample size of 12, would need 3 exceedances to list as impaired. 0/2 samples (≤25%) exceed the 45 NTU (Jun-Oct) standard. Based on a minimum sample size of 12 would need 5 exceedances to list as impaired. Used Nov00-Sep01 data. Use Supported.
Fourche LaFave	11110206	-006	3E		siltation	OUMT & ARRV ER transition zone: evaluated on upstream Stations ARK037 and ARK037A combined data , applying ARRV turbidity criteria: 1/12 samples (≤25%) exceeds 21 NTU (Jun-Oct); 1/33 samples (≤15%) exceeds 40 NTU (all data); used Oct1998-Dec2001 data and trib Station GAF01 all of which are supporting based on ARRV ER turbidity criteria. Use Supported.
Fourche LaFave	11110206	-001	3E		siltation	OUMT & ARRV ER transition zone: evaluated on downstream Station ARK036 data: 1/3 samples (≤25%) exceeds 21 NTU (Jun-Oct); based on minimum sample size of 12 would need 4 exceedances to list as impaired; 1/5 samples (≤15%) exceeds 40 NTU (all data); based on minimum sample size of 12 would need 3 exceedances to list as impaired; used Oct1998-Aug1999 data. Insufficient data and information available to make impairment determination.
Frenchmans Bayou	8020203	-004	5A		siltation	Insufficient data or other information for determination of listing
Frog Bayou	11110201	-018	3H	ARK47	pathogens	0/3 samples (≤25%) exceed the Primary Contact Use criterion of 400 FC/100ml; 0/5 samples (≤25%) exceed the Secondary Contact Use criterion of 2000 FC/100 ml; data used Oct1998-Aug1999. Use Supported.
Frog Bayou	11110201	-018	3H	ARK47	siltation	0/5 samples (≤25%) exceed 10 NTU (Jun-Oct); 1/5 samples (≤15%) exceed 19 NTU (all months); used Oct1998-Aug1999 data. Use Supported.

Gafford Creek	11110206	-012	3E	GAF01	siltation	OUMT & ARRV ER transition zone; applying ARRV turbidity criteria: 1/7 samples (≤25%) exceeds 21 NTU (Jun-Oct); 0/13 samples (≤15%) exceeds 40 NTU (all data); used May1994-Aug1999 data. Based on limited data and information, use supported.
Illinois River	11110103	-024	3J	ARK40	siltation	1/16 samples (≤25%) exceed 10 NTU (Jun-Oct); 5/37 samples (≤15%) exceed 17 NTU (all months); used Oct1998-Dec2001 data. Use supported.
Illinois River	11110103	-020	3J	ARK06	siltation	1/17 samples (<25%) exceed 10 NTU (Jun-Oct); 5/36 samples (<15%) exceed 17 NTU (all months); used Oct1998-Dec2001 data
Illinois River	11110103	-028	3J	ILL01	siltation	Based on downstream Station ARK40: 1/16 samples (≤25%) exceed 10 NTU (Jun-Oct); 5/37 samples (≤15%) exceed 17 NTU (all months); used Oct1998-Dec2001 data. Use Supported.
Illinois River	11110103	-023	3J		siltation	Based on upstream Station ARK40: 1/16 samples (≤25%) exceed 10 NTU (Jun-Oct); 5/37 samples (≤15%) exceed 17 NTU (all months); used Oct1998-Dec2001 data. Use Supported.
Illinois River	11110103	-022	3J	ARK06A	siltation	Insufficient. data for Station ARK06A, therefore based decision on downstream station ARK06: 1/17 samples (≤25%) exceed 10 NTU (Jun-Oct); 5/36 samples (≤15%) exceed 17 NTU (all months); used Oct1998-Dec2001 data. Use Supported.
James Fork	11110105	-033	3I	ARK15	siltation	1/11 samples (≤25%) exceed 21 NTU (Jun-Oct); 1/33 samples (≤15%) exceed 40 NTU (all months); used Oct1998-Dec2001 data. Use Supported.
Kings River	11010001	-008			siltation	No such reach exists
L. Missouri River	8040103	-008	2G	OUA35	siltation	1/16 samples (≤25%) exceed 21 NTU (Jun-Oct); 3/36 samples (≤15%) exceed 32 NTU (all months); used Oct1998-Dec2001 data. Use Supported.
La Grue Bayou	8020303	-006	4A	LGB02	siltation	2/6 samples exceed 45 NTU (Jun-Oct). Based on a minimum sample size of 12 would need 5 exceedances to list as impaired; 1/16 samples (≤15%) exceed 84 NTU, used Jun1994-Sep2001 data. Based on available data and information, use supported.
Little River	8020204	-002	5C		siltation	Insufficient data or other information for determination of listing
Little River	8020204	-004	5C		siltation	Insufficient data or other information for determination of listing

Little River Left	8020204	-001	5C	FRA37	siltation	2/6 samples exceed the 100 NTU criterion, based on a minimum sample size of 12, would need 3 exceedances to list as impaired. 0/2 samples (≤25%) exceed the 75 NTU (Jun-Oct) criterion, based on a minimum sample size of 12 would need 4 exceedances to list as impaired. Used Nov00-Sep01 data. Based on available data and information, use supported.
Little River Right	8020204	-005	5C	FRA38	siltation	1/6 samples (≤15%) exceed the 100 NTU criterion. Based on a minimum sample size of 12, would need 3 exceedances to list as impaired. 0/2 samples (≤25%) exceed the 75 NTU (Jun-Oct) criterion, based on a minimum sample size of 12 would need 4 exceedances to list as impaired. Used Nov00-Sep01 data. Based on limited data and information, use supporting.
Little Sugar	11070208	-003	3J		nutrients	Insufficient data or other information for determination of listing
Little Sugar	11070208	-003	3J		siltation	Insufficient data or other information for determination of listing
Long Creek	11010001	-054	4K	WHI71	pathogens	1/6 samples (≤25%) exceed the Primary Contact Use criterion of 400 FC/100ml; 0/6 samples (≤25%) exceed the Secondary Contact Use criterion of 2000 FC/100 ml; data used Apr1999-Sep1999. Use Supported.
Long Creek	11010001	-056	4K		pathogens	Evaluated on downstream Station WHI71 which is in support.
Long Creek	11010001	-057	4K		pathogens	Evaluated on downstream Station WHI71 which is in support.
Long Creek	11010001	-056	4K		siltation	Insufficient data or other information for determination of listing
Long Creek	11010001	-057	4K		siltation	Insufficient data or other information for determination of listing
Macon Bayou	8050002	-006	2A	BYM01	nutrients	Data from Nov00-Sep01 (6 values) ranged from 0.14 to 0.56 mg/l total phosphorus with an average of 0.31 mg/l. These values are not meaningfully different from Delta ecoregion reference stream values ranging from 0.10 to .41 mg/l total phosphorus with an average of 0.24 mg/l. EPA does not believe this stream is in violation of the Arkansas' narrative criterion for nutrients. Use Supported.
Macon Bayou	8050002	-006	2A	BYM01	siltation	On 2002 303(d) List
Middle Fork	11010001	-026	4K	WHI103	siltation	0/16 samples (≤25%) exceed 10 NTU (Jun-Oct); 3/37 samples (≤15%) exceed 17 NTU (all months); used Oct1998-Dec2001 data. Use Supported.
Middle Fork	11010014	-027	4E	WHI43	siltation	1/16 samples (≤25%) exceed 10 NTU (Jun-Oct); 1/36 samples (≤15%) exceed 19 NTU (all months); used Oct1998-Dec2001 data. Use Supported.

Middle Fork	11010014	-028	4E		siltation	Based on downstream Station WHI43: 1/16 samples (≤25%) exceed 10 NTU (Jun-Oct); 1/36 samples (≤15%) exceed 19 NTU (all months); used Oct1998-Dec2001 data. Use Supported.
Mississippi River	8010100	-004	6		siltation	Insufficient data or other information for determination of listing
Moores Creek	11110103	-026	3J		siltation	Insufficient data or other information for determination of listing
Mountain Fork	11140108	-014	1D	RED01	siltation	2/16 samples (≤25%) exceed 10 NTU (Jun-Oct); 4/38 samples (≤15%) exceed 18 NTU (all months); used Oct1998-Dec2001 data. Use Supported.
Muddy Fork	11110103	-027	3J	MFI02B+	siltation	Based on MFI02B: 1/3 samples (≤25%) exceed 10 NTU (Jun-Oct); based on minimum sample size of 12, would need 4 exceedances to list as impaired; 1/7 samples (≤15%) exceed 17 NTU (all months). Based on minimum sample size of 12 would need 3 exceedances to list as impaired; used May1995-Jun1996 data. Insufficient data and information available to make impairment determination.
Muddy Fork.	11110103	-025	3J	MFI04+	siltation	Based on MFI04: 1/3 samples (≤25%) exceed 10 NTU (Jun-Oct); based on minimum sample size of 12, would need 5 exceedances to list as impaired; 1/7 samples (≤15%) exceed 17 NTU (all months). Based on minimum sample size of 12 would need 3 exceedances to list as impaired; used May1995-Jun1996 data. Insufficient data and information available to make impairment determination.
Mulberry River	11110201	-006	3H	ARK42	siltation	0/10 samples (≤25%) exceed 10 NTU (Jun-Oct); 1/31 samples (≤15%) exceed 19 NTU (all months); used Oct1998-Dec2001 data. Use Supported.
Oak Log Creek	8050002	-010	2A	OUA179	siltation	2/6 samples exceed the 84 NTU criterion, based on a minimum sample size of 12, would need 3 exceedances to list as impaired. 0/2 samples (<25%) exceed the 45 NTU (Jun-Oct) criterion, based on a minimum sample size of 12 would need 4 exceedances to list as impaired. Used Nov00-Sep01 data. Based on available data and information, use supported.
Oak Log Creek	8050002	-010	2A	OUA179	nutrients	Data from Nov00-Sep01 (6 values) ranged from 0.18 to 0.5 mg/l total phosphorus with an average of 0.31 mg/l. These values are not meaningfully different from Delta ecoregion reference stream values ranging from 0.10 to .41 mg/l total phosphorus with an average of 0.24 mg/l. EPA does not believe this stream is in violation of the Arkansas' narrative criterion for nutrients. Use Supported.

Osage Creek	11010001	-045	4K	WHI069	siltation	0/14 samples (≤25%) exceed 10 NTU (Jun-Oct); 0/30 samples (≤15%) exceed 17 NTU (all months); used Oct1998-Dec2001 data. Use Supported.
Osage Creek	11010001	-047	4K		siltation	Based on downstream Station WHI68: 0/16 samples (≤25%) exceed 10 NTU (Jun-Oct); 1/37 samples (≤15%) exceed 17 NTU (all months); used Oct1998-Dec2001 data. Use Supported.
Ouachita River	8040101	-033	2F	OUA21	pathogens	1/11 samples (≤25%) exceed the Primary Contact Use criterion of 400 FC/100ml; 1/19 samples (≤25%) exceed the Secondary Contact Use criterion of 2000 FC/100 ml; data used Jan1995-SEP1997. Use Supported.
Overflow Creek	11010014	-006	4E	OFC01	siltation	2/6 samples exceed 45 NTU (Jun-Oct). Based on a minimum sample size of 12 would need 4 exceedances to list as impaired; 1/10 samples (≤15%) exceed 84 NTU (all months); based on a minimum samples size of 12 would need 3 exceedances to list as impaired; used Jun1993-Oct2001 data. Based on available data and information, use supported.
Overflow Creek	11010014	-004	4E		siltation	Based on upstream Station WHI59 (reach 007): 0/15 samples (≤25%) exceed 21 NTU (Jun-Oct); 2/37 samples (≤15%) exceed 40 NTU (all months); and also based on upstream Station OFC01 (reach 006): 2/6 samples (≤25%) exceed 45 NTU (Jun-Oct); based on a minimum sample size of 12, would need 4 exceedances to list as impaired; 1/10 samples (≤15%) exceed 84 NTU (all months); based on a minimum samples size of 12, would need 3 exceedances to list as impaired; used Jun1993-Oct2001 data. Use Supported.
Pemiscot Bayou	8020204	-003	5C		siltation	Insufficient data or other information for determination of listing
Petit Jean River	11110204	-011	3G	ARK34	siltation	1/9 samples (≤25%) exceed 21 NTU (Jun-Oct); based on minimum sample size of 12 would need 5 exceedances to list as impaired; 2/28 samples (≤15%) exceed 40 NTU; determination used Oct1998-Dec2001 data. Based on limited data and information, use supported.
Petit Jean River	11110204	-005	3G	PJR03	siltation	3/7 samples exceed 21 NTU (Jun-Oct). Based on a minimum sample size of 12 would need 4 exceedances to list as impaired; 2/10 samples (≤15%) exceed 40 NTU; based on a minimum sample size of 12 would need 3 exceedances to list as impaired; Used May1994-Aug1999 data. Based on available data and information, use supported.

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Petit Jean River	11110204	-006	3G	PJR02	siltation	3/7 samples exceed 21 NTU (Jun-Oct); based on a minimum sample size of 12 would need 4 exceedances to list as impaired; 1/9 samples (≤15%) exceed 40 NTU; based on minimum sample size of 12 would need 3 exceedances to list as impaired; used May1994-Aug1999 data. Based on available data and information, use supported.
Petit Jean River	11110204	-003	3G		siltation	Evaluated on downstream Station PJR03:3/7 samples (<25%) exceed 21 NTU (Jun-Oct); based on a minimum sample size of 12 would need 5 exceedances to list as impaired; 2/10 samples (<15%) exceed 40 NTU; based on a minimum sample size of 12 would need 3 exceedances to list as impaired; Used May1994-Aug1999 data. Use Supported.
Piney Creek	11110202	-019	3H	ARK43	siltation	0/16 samples (≤25%) exceed 10 NTU (Jun-Oct); 1/36 samples (≤15%) exceed 19 NTU (all months); used Oct1998-Dec2001 data. Use Supported.
Piney Creek	11110202	-021	3H		siltation	Based on downstream Station ARK43 data, reach 021 is not impaired. Use Supported.
Piney Creek	11110202	-018	3H		siltation	Based on upstream Station ARK43: 0/16 samples (≤25%) exceed 10 NTU (Jun-Oct); 1/36 samples (≤15%) exceed 19 NTU (all months); used Oct1998-Dec2001 data. Use Supported.
Piney Creek	11110202	-023	3H		siltation	Based on upstream Station ARK43: 0/16 samples (≤25%) exceed 10 NTU (Jun-Oct); 1/36 samples (≤15%) exceed 19 NTU (all months); used Oct1998-Dec2001 data. Use Supported.
Poteau River	11110105	-027	3I	USGS	pathogens	1/9 samples (≤25%) exceed the Primary Contact Use criterion of 400 FC/100ml; 1/18 samples (≤25%) exceed the Secondary Contact Use criterion of 2000 FC/100 ml; data used Oct1998-Aug2001. Use Supported.
Poteau River	11110105	-027	3I	USGS	siltation	USGS does not collect turbidity data. Insufficient data or other information for determination of listing
Red Fork Creek	8050002	-008	2A	OUA177	siltation	1/2 samples (≤15%) exceed the 84 NTU criterion. Based on a minimum sample size of 12, would need 3 exceedances to list as impaired. No samples were taken during the Jun-Oct period for assessment of the 45 NTU criterion. Used Jan01-Mar01 data. Insufficient data or information to make an assessment.

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Red Fork Creek	8050002	-008	2A	OUA177	nutrients	Data from Jan01-Mar01 (2 values) ranged from 0.33 to 0.38 mg/l total phosphorus with an average of 0.35 mg/l. These values are not meaningfully different from Delta ecoregion reference stream values ranging from 0.10 to .41 mg/l total phosphorus with an average of 0.24 mg/l. EPA does not believe this stream is in violation of the Arkansas' narrative criterion for nutrients. Use Supported.
Richland Creek	11010001	-030	4K		siltation	Insufficient data or other information for determination of listing
Rolling Fork	11140109	-24	1C		nutrients	Insufficient data or other information for determination of listing
Rolling Fork	11140109	-027	1C		nutrients	Insufficient data or other information for determination of listing
Rolling Fork	11140109	-028	1C	RED30&58	nutrients	Portion of this segment re-numbered as reach 919 and is on the 2002 303(d) list for TP and NO3
S.FourcheLaFave	11110206	-013	3E		siltation	OUMT & ARRV transition zone: applied ARRV turbidity criteria; evaluated on upstream Station ARK52: 1/17 samples (≤25%) exceed 21 NTU (Jun-Oct); 1/37 samples (≤15%) exceed 40 NTU, used Oct1998-Dec2001 data and downstream Station ARK36: 1/3 samples (≤25%) exceed 21 NTU (Jun-Oct); 1/5 samples (≤15%) exceed 40 NTU; used Oct1998-Aug1999 data. Use Supported.
S.FourcheLaFave	11110206	-014	3E	ARK52	siltation	OUMT & ARRV transition zone: applying ARRV turbidity criteria; 1/17 samples (≤25%) exceed 21 NTU (Jun-Oct); 1/37 samples (≤15%) exceed 40 NTU, used Oct1998-Dec2001 data. Use Supported.
Saline River	11140109	-014	1C	RED32	pathogens	3/12 samples (≤25%) exceed the Primary contact use criterion of 400 col/100 ml; 0/19 samples (≤25%) exceed the Secondary contact use criterion of 2000 FC/100 ml); used Jan1995-Sep1977 data. Use Supported.
Second Creek	8020205	-008	5B	FRA12+	siltation	0/16 samples (≤25%) exceed 45 NTU (Jun-Oct); 1/37 samples (≤15%) exceed 84 NTU, used Oct1998-Dec2001 data. Use Supported.
Smackover Creek	8040201	-006	2D	OUA27	minerals	0/38 samples (≤50%) exceeded 250 mg/l Cl; 0/37 samples (≤50%) exceeded 30 mg/l SO4; 1/37 samples (≤50%) exceeded 500 mg/l TDS for ecoregion values; for drinking water criterions: 0/38 and 0/27 samples (≤10%) exceeded 250 mg/l Cl and 250 mg/l SO4 and 1/37 samples (≤10%) exceeded the 500 mg/l TDS; used Oct1998-Dec2001 data. Use Supported.

Smackover Creek	8040201	-007	2D		minerals	Based on downstream Station OUA27: 0/38 samples (≤50%) exceeded 250 mg/l Cl; 0/37 samples (≤50%) exceeded 30 mg/l SO4; 1/37 samples (≤50%) exceeded 500 mg/l TDS for ecoregion values; for drinking water criterions: 0/38 and 0/27 samples (≤10%) exceeded 250 mg/l Cl and 250 mg/l SO4 and 1/37 samples (≤10%) exceeded the 500 mg/l TDS; used Oct1998-Dec2001 data. Use Supported.
Spring River	11010010	-003	4H	WHI21	siltation	0/16 samples (≤25%) exceed 10 NTU (Jun-Oct); 1/38 samples (≤15%) exceed 17 NTU, used Oct1998-Dec2001 data. Use Supported.
Spring River	11010010	-018	4H		siltation	Based on upstream Station WHI21(reach 003): 0/16 samples (≤25%) exceed 10 NTU (Jun-Oct); 1/38 samples (≤15%) exceed 17 NTU (all months); used Oct1998-Dec2001 data and also based on upstream Station JNC01 (upstream trib): 0/6 samples (≤25%) exceed 10 NTU (Jun-Oct); 0/10 samples (<15%) exceed 17 NTU (all months); used Jun1994-Oct2001 data. Use Supported.
St. Francis River	8020203	-008	5A	FRA13	siltation	0/16 samples (≤25%) exceeded the criterion of 75 NTU (Jun-Oct), 2/38 samples (≤15%) exceeded the criterion of 100 NTU; based on specific turbidity criteria for the St. Francis River; used Oct1998 - Dec2001 data. Use Supported.
St. Francis River	8020203	-014	5A	FRA08	siltation	2/16 samples (≤25%) exceed 45 NTU (Jun-Oct); 2/38 samples (≤15%) exceed 84 NTU, used Oct1998-Dec2001 data. Use Supported.
St. Francis River	8020203	-015	5A		siltation	Based on downstream Station FRA08: 2/16 samples (≤25%) exceed 45 NTU (Jun-Oct); 2/38 samples (≤15%) exceed 84 NTU, used Oct1998-Dec2001 data. Use Supported.
St. Francis River	8020203	-009	5A		siltation	Based on downstream station FRA13: 0/16 samples (≤25%) exceeded the criterion of 75 NTU (Jun-Oct), 2/38 samples (≤15%) exceeded the criterion of 100 NTU; based on specific turbidity criteria for the St. Francis River; used Oct1998 - Dec2001 data. Use Supported.
St. Francis River	8020203	-002	5A		siltation	Based on upstream station FRA13: 0/16 samples (<25%) exceeded the criterion of 75 NTU (Jun-Oct), 2/38 samples (≤15%) exceeded the criterion of 100 NTU; based on specific turbidity criteria for the St. Francis River; used Oct1998 - Dec2001 data. Use Supported.
St. Francis River	8020203	-009	5A		pathogens	Insufficient data or other information for determination of listing
St. Francis River	8020203	-013	5A		siltation	Insufficient data or other information for determination of listing

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Strawberry River	11010012	-009	4G	SBR02	pathogens	1/5 samples (≤25%) exceed the Primary Contact Use criterion of 400 FC/100ml; 0/9 samples (≤25%) exceed the Secondary Contact Use criterion of 2000 FC/100 ml; data used Jun1991-Oct1996. Use Supported.
Strawberry River	11010012	-002	4G	SBR03	pathogens	1/5 samples (≤25%) exceed the Primary Contact Use criterion of 400 FC/100ml; 0/9 samples (≤25%) exceed the Secondary Contact Use criterion of 2000 FC/100 ml; data used Jun1994-Oct1996. Use Supported.
Strawberry River	11010012	-004	4G		siltation	On 2002 303(d) List
Strawberry River	11010012	-005	4G		siltation	On 2002 303(d) List
Strawberry River	11010012	-001	4G		siltation	TMDL in progress
Tyronza River	8020203	-010	5A	FRA32	siltation	2/6 samples exceed the 100 NTU criterion, based on a minimum sample size of 12, would need 3 exceedances to list as impaired. 0/2 samples (≤25%) exceed the 75 NTU (Jun-Oct) criterion, based on a minimum sample size of 12 would need 4 exceedances to list as impaired. Used Nov00-Sep01 data. Based on available data and information, use supported.
Tyronza River	8020203	-012	5A	FRA33	siltation	2/6 samples exceed the 84 NTU criterion. Based on a minimum sample size of 12, would need 3 exceedances to list as impaired. 0/2 samples (≤25%) exceed the 45 NTU (Jun-Oct) criterion, based on a minimum sample size of 12 would need 4 exceedances to list as impaired. Used Nov00-Sep01 data. Based on available data and information, use supported.
Village Creek	11010013	-006	4C	VGC01&3	pathogens	2/10 samples (≤25%) exceed the Primary Contact Use criterion of 400 FC/100ml; 2/18 samples (≤25%) exceed the Secondary Contact Use criterion of 2000 FC/100 ml; data used Jun1994-Oct1996. Use Supported.
Wabbaseka Bayou	8020401	-003	3A	WSB01	pathogens	2/7 samples exceed the Primary Contact Use criterion of 400 FC/100ml; 0/8 samples (≤25%) exceed the Secondary Contact Use criterion of 2000 FC/100 ml; data used Apr1998-Oct1998. Use Supported.
War Eagle Creek	11010001	-034	4K	WHI116	siltation	1/16 samples (≤25%) exceed 10 NTU (Jun-Oct); 5/37 samples (≤15%) exceed 17 NTU, used Oct1998-Dec2001 data. Use Supported.
War Eagle Creek	11010001	-035	4K		siltation	Based on downstream Station WHI16 (reach 034): 1/16 samples (<25%) exceed 10 NTU (Jun-Oct); 5/37 samples (<15%) exceed 17 NTU, used Oct1998-Dec2001 data. Use Supported.
War Eagle Creek	11010001	-060	4K		pathogens	Insufficient data or other information for determination of listing

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War Eagle Creek	11010001	-060	4K		siltation	Insufficient data or other information for determination of listing
Wattensaw Bayou	8020301	-015	4D	WHI72	siltation	0/17samples (≤25%) exceed 45 NTU (Jun-Oct); 1/37 samples (≤15%) exceed 84 NTU, used Oct1998-Dec2001 data. Use Supported.
Whiteness Creek	8020203	-021	5A		siltation	Insufficient data or other information for determination of listing
Whiteness Creek	8020203	-023	5A		siltation	Insufficient data or other information for determination of listing
Yocum Creek	11010001	-052	4K		pathogens	Insufficient data or other information for determination of listing

Lake	HUC	Pollutant	EPA Justification
Bear Creek	8020205	turbidity	Data from 1989, 1994 and 1999 indicates no violoations of the turbidity criteria of 25 NTU. All samples collected had concentrations at or below 14 NTU. Use Supported.
Beaver	11010001	Nutrients	All samples collected for 1989, 1994 and 1999 had concentrations at or below 0.08 mg/l total phosphorus, 0.53 ug/l Chlorophyll a, pH 8.79, and 8.0 mg/l dissolved oxygen. EPA does not believe this lake is in violation of the Arkansas narrative criterion for nutrients. Use Supported.
Big Johnson	8040204	Mercury	On 2002 303(d) list
Cane Creek	8040205	Bacteria	Current data (1999) indicates no violations in standards. All samples collected had concentrations at or below 4 col/100 ml. Use Supported
Charles	11010009	Bacteria	Current data (1999) indicates no violations in standards. All samples collected had concentrations at or below 6 col/100 ml. Use Supported
Columbia	11140203	Mercury	On 2002 303(d) list
Dupree	8020402	Mercury	There are no current fish consumption advisories related to mercury on this waterbody. Use Supported.
Fayetteville	11110103	Nutrients	All samples collected for 1989, 1994 and 1999 had concentrations at or below 0.09 mg/l total phosphorus, 17.9 chlorophyll a, pH 8.36 and 6.82 mg/l dissolved oxygen. EPA does not believe this lake is in violation of the Arkansas narrative criterion for nutrients. Use Supported.
Felsenthal	8040202	Bacteria	Current data (1999) indicates no violations in standards. All samples collected had concentrations at or below 5 col/100 ml.
First Old River	11140106	turbidity	Data from 1989 and 1994 indicates no violoations of the turbidity criteria of 25 NTU. All samples collected had concentrations at or below 12 NTU. Turbidity concentrations were not reported in 1999. Use Supported.
Frierson	8020302	nutrients	All samples collected for 1989, 1994 and 1999 had concentrations at or below 0.17 mg/l total phosphorus, 30 ug/l chlorophyll a, pH 6.87 and 5.4 mg/l dissolved oxygen. EPA does not believe this lake is in violation of the Arkansas narrative criterion for nutrients. Use Supported.
Frierson	8020302	Bacteria	Current data (1999) indicates no violations in standards. All samples collected had concentrations at or below 43 col/100 ml. Use Supported.
Grand	8050002	turbidity	Data from 1989 and 1994 indicates no violoations of the turbidity criteria of 25 NTU. All samples collected had concentrations at or below 15 NTU. Turbidity concentrations were not reported in 1999. Use Supported.
Grand	8050002	Bacteria	Current data (1999) indicates no violations in standards. All samples collected had concentrations at or below 23 col/100 ml. Use Supported.
Grays	Grays	Mercury	On 2002 303(d) list
Greenlee	8020304	nutrients	All data collected for 1989 and 1994 had concentrations at or below 0.29 mg/l total phosphorus and 22.7 ug/l chlorophyll a. No data was collected for pH and dissolved oxygen. EPA does not believe this lake is in violation of the Arkansas narrative criterion for nutrients. Use Supported.

Greenlee	8020304	turbidity	Data from 1989 and 1994 indicates no violoations of the turbidity criteria of 25 NTU. All samples collected had concentrations at or below 9.7 NTU. Turbidity concentrations were not reported in 1999. Use Supported.
Horseshoe	8020203	turbidity	Data from 1989, 1994 and 1999 indicates no violoations of the turbidity criteria of 25 NTU. All samples collected had concentrations at or below 20 NTU. Use Supported.
June	11140203	Bacteria	3) Current data (1999) indicates no violations in standards. All samples collected had concentrations at or below 210 col/100 ml. Use Supported.
Erling	11140205	Minerals	Data from 1989, 1994 and 1999 indicates no violoations of the minerals criteria. All samples collected had concentrations at or below 11 mg/l Chloride, 6 mg/l Sulfate, and 71 mg/l TDS. Use Supported.
Erling	11140205	Bacteria	Current data (1999) indicates no violations in standards. All samples collected had concentrations at or below 43 col/100 ml. Use Supported.
Lower Chicot	8050002	nutrients	All data collected for 1989, 1994 and 1999 had concentrations at or below 0.19 mg/l total phosphorus, 45.1 ug/l chlorophyll a, pH 7.73, 8.91 mg/l dissolved oxygen. EPA does not believe this lake is in violation of Arkansas narrative criterion for nutrients. Use Supported.
Lower Chicot	8050002	turbidity	Data from 1989 and 1994 indicates no violoations of the turbidity criteria of 25 NTU. All samples collected had concentrations at or below 11 NTU. Turbidity concentrations were not reported in 1999. Use Supported.
Mallard	8020204	turbidity	Data from 1989, 1994 and 1999 indicates no violoations of the turbidity criteria of 25 NTU. All samples collected had concentrations at or below 18 NTU. Use Supported.
Mallard	8020204	Bacteria	Current data (1999) indicates no violations in standards. All samples collected had concentrations at or below <3 col/100 ml. Use Supported.
Millwood	11140109	Nutrients	All data collected for 1989 and 1999 had concentrations at or below 0.05 mg/l total phosphorus, 36.10 ug/l cha, pH 8.83, 8.47 mg/l dissolved oxygen. EPA does not believe this lake is in violation of Arkansas narrative criterion for nutrients. Use Supported.
Old Town	8020303	turbidity	Turbidity data from six data points only exceeded the standard on one occasion and it was 26 NTU while the standard is 25 NTU. Use Supported.
Pine Bluff	11110207	Bacteria	Current data (1999) indicates no violations in standards. All samples collected had concentrations at or below 8 col/100 ml. Use Supported.
Poinsette	8020203	Turbidity	Turbidity data from six data points only exceeded the standard on one occasion and it was 30 NTU while the standard is 25 NTU. Use Supported.
Upper Chicot	8050002	nutrients	All data collected for 1989, 1994 and 1999 had concentrations at or below 0.25 mg/l total phosphorus, 36.1 ug/l chlorophyll a, pH 8.83, and 8.47 mg/l dissolved oxygen. EPA does not believe this lake is in violation of Arkansas narrative criterion for nutrients. Use Supported.

Upper Chicot	8050002	turbidity	Data from 1989 and 1994 indicates no violoations of the turbidity criteria of 25 NTU. All samples collected had concentrations at or below 11 NTU. Turbidity concentrations were not reported in 1999. Use Supported.
Storm Creek	8020100	Bacteria	Current data (1999) indicates no violations in standards. All samples collected had concentrations at or below 9 col/100 ml. Use Supported.
Sugarloaf	11110105	Bacteria	Current data (1999) indicates no violations in standards. All samples collected had concentrations at or below 42 col/100 ml. Use Supported.